



# 2007 Minerals Yearbook

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**BELGIUM AND LUXEMBOURG [ADVANCE RELEASE]**

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# THE MINERAL INDUSTRIES OF BELGIUM AND LUXEMBOURG

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## BELGIUM

Belgium has a diversified industrial and commercial base and is located at the heart of one of the world's most highly developed industrialized regions. It has an export-oriented economy and is an important mineral producer. Belgium's industry depended greatly on nondomestic markets, especially those of other European Union (EU) countries. About 76% of Belgium's exports went to EU countries. Trade statistics in this chapter are for the Belgium-Luxembourg Economic Union (BLEU). Belgium, Luxembourg, and the Netherlands (BENELUX) comprise the BENELUX custom unit, an economic union aimed at reinforcing cross-border cooperation between the three countries. More than 20% of United States exports to the EU go to the BENELUX (Emporiki Bank, 2007).

### Minerals in the National Economy

Trading of diamond and processing of metals were the leading mineral industries in Belgium. The country had no economically exploitable reserves of coal or metal ores in 2007.

Because it hosts few natural resources of its own, the country must import substantial quantities of raw materials. The metal processing industries were significant to the Belgian economy in 2007, contributing about 27% of the gross domestic product (GDP). Europe's leading electrolytic copper refinery, a major zinc refinery, and one of the continent's leading lead refineries were located in Belgium (Encyclopedia of the Nations, 2007).

In addition, in 2007, Belgium retained its position as the world's diamond capital with more than 50% of the world's production of rough, polished, and industrial diamond passing through Antwerp (Antwerp World Diamond Center, 2007).

In 2006 (the latest year for which data were available), Belgium's industry, including minerals, accounted for 24% of the GDP. Exports and imports of mineral products included but were not limited to aluminum, which was valued at \$2,784 million (for exports) and \$3,115 million (for imports); copper, \$3,212 million (exports) and \$1,996 million (imports); diamond, other than industrial, \$15,604 million (exports) and \$13,948 million (imports); metalliferous ore and metal scrap, \$3,417 million (exports) and \$7,498 million (imports); mineral fuels, lubricants and related materials, \$28,413 million (exports) and \$47,722 million (imports); petroleum and related products, \$18,985 million (exports) and \$30,500 million (imports) (Belgium Foreign Trade Agency, 2007).

### Production

Mining was less important to the country's economy than in the past and in 2007, mining was conducted only for industrial minerals. The refining of copper, minor metals, and zinc, and

the production of steel were the leading mineral industries in Belgium. The country was also a producer of cadmium, cobalt, germanium, selenium, and tellurium. Belgium's well developed industrial minerals sector included the production of such industrial materials as carbonates and cement, and such construction materials as dolomite, limestone, and silica sand (table 1).

### Structure of the Mineral Industry

The principal mining and mineral-processing facilities in Belgium, with their locations and capacities, are listed in table 2. Most facilities were privately owned either by Belgian companies or other EU companies.

### Commodity Review

#### *Metals*

**Iron and Steel.**—ArcelorMittal announced a plan to revamp the upstream and downstream steelworks at Seraing, near Liege, because of much stronger demand. The High Furnace no. 6 (HF6), which had a capacity of 1.5 million metric tons per year (Mt/yr), was closed in 2005 owing to weak demand but would reopen in 2007 at a cost of \$28 million. The company planned to raise the HF6 capacity to 3.1 Mt/yr by 2010, provided that demand remains strong. The additional steel production was expected to be sold to the European market (Platts, 2007a).

**Zinc.**—In 2007, Nyrstar S.A. announced that it had taken ownership of the lead and zinc smelting and alloying assets of N.V. Umicore S.A. and Ziniflex Ltd., thereby formally launching the company and creating the world's leading zinc producer. The Ziniflex assets were the Budel (Netherlands), Clarksville (Gordensville, Tennessee), and the Hobart and the Port Pirie (Australia) smelting and alloying operations. The Umicore assets were the Auby and the GM Metal (France) and the Balen and the Overpelt (Belgium) smelting and alloying operations. With operations on four continents, Nyrstar produced more than 1 million metric tons of zinc and zinc alloys in 2006, which was equivalent to 10% of the global market. Also, Nyrstar was one of the leading primary lead smelting and refining companies in the world (Mining Engineer, 2007).

#### *Industrial Minerals*

**Diamond, Industrial.**—The diamond district of Antwerp, which comprised four exchanges and about 1,500 diamond companies, was a leading diamond distribution center. Belgium was the world's leading exporter of diamond and precious stones and handled about 80% of world consumption of rough and polished diamond. One in two polished diamonds in the

world was handled in Antwerp and eight in ten rough diamonds in the world were handled there. The United States remained the most important export market for cut diamond (Antwerp World Diamond Center, 2007).

In 2007, 9.4 million carats of polished diamond with a value of \$10.7 billion was exported and 9.7 million carats of polished diamond with a value of \$10 billion was imported. The diamond sector accounted for 8% of Belgium's total exports (International Diamond and Jewelry Exchange, 2008).

**Stone, Dimension.**—The region now known as Belgium has been an important producer of marble for more than 2,000 years and has long been recognized for the diversity and quality of its dimension stone. A dark blue-gray crinoidal limestone, which is referred to as “petit granit,” was one of the most important facing stones that the country produced. All the marble quarries are located in the Walloon region. Red, black, and gray were the principal color ranges of the marble. Most of the marble production was exported to other EU countries.

### *Mineral Fuels and Other Sources of Energy*

**Coal.**—E.On S.A. announced plans to build a \$2.2 billion coal-fired power station in the Antwerp harbor area. The 1,100-megawatt (MW)-capacity plant would have an efficiency of 46% and 25% fewer carbon dioxide emissions than the average coal-fired plants currently in operation in Belgium. E.On stated that coal-fired power stations would continue to play an important role in the company's future energy mix, along with gas, nuclear energy, and renewable energies. The Antwerp harbor area was chosen because it is located close to large energy users, such as the chemical industry (Oilvoice, 2007).

**Natural Gas.**—The European Commission (EC) took steps to open up the Belgium gas market by obtaining commitments from the dominant gas utility, Distrigas, to cut volumes sold under long-term contracts. The EC made these commitments legally binding because of concerns that Distrigas might prevent other suppliers from entering the Belgium market in violation of the EC treaty rules on abuse of a dominant market position (Platts, 2007b).

**Renewable Energy.**—EdF Energies Nouvelles was building Belgium's first offshore wind farm at Thornton Bank, which is located 25 kilometers (km) off the coast. The first phase of the project would have a capacity of 30 MW. EdF stated that phase 1 of the project would involve the construction of six high-power wind turbines by October 2008, each with a capacity of 5 MW. The future wind farm was expected to have 60 wind turbines and be the largest wind farm in Europe. Construction of the entire project was expected to take place by 2012 (PennWell Corp., 2007).

### **Outlook**

Belgium is expected to remain a significant mineral processor and major diamond trader in the world. It is also expected to remain significant in international and intra-European cargo handling of mineral products through its major ports. The four ports in Flanders (Antwerp, Ghent, Ostend, and Zeebrugge), which are all located within 100 km of each other, are leading

players in international and intra-European cargo handling and are expected to remain so. The Port of Antwerp is a particularly important link in the chain of international trade. In 2007, annual traffic at Antwerp was 183 Mt. Bulk products, including coal, oil, and ores, made up 38% of tonnage and other commodities, such as chemical products, and iron and steel accounted for the remaining 62% (Federal Public Service Foreign Affairs, Foreign Trade and Development Cooperation, 2007).

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## **LUXEMBOURG**

### **Minerals in the National Economy**

In 2007, Luxembourg's mineral industry comprised mainly mineral information systems, mineral trading, and raw materials processing. Because it is a member of the BLEU, trade statistics for Luxembourg are inextricably linked with those of Belgium and, therefore, cannot be listed individually. International trade data for Belgium and Luxembourg is given in the Belgium section of this chapter. The iron and steel industry was Luxembourg's most important mineral industry sector, and steel was the country's main export commodity.

### **Production**

Mining in Luxembourg was represented by small industrial mineral operations that produced material only for domestic consumption. These minerals included dolomite, limestone,

sand and gravel, and slate. Information on these operations was not readily available. Some commodity production data are provided in table 1.

### **Structure of the Mineral Industry**

The principal mineral facilities in Luxembourg with their locations and capacities are listed in table 2. Most facilities were privately owned.

### **Commodity Review**

#### ***Metals***

**Iron and Steel.**—The proposed merger of Arcelor S.A. and Mittal Steel N.V. was approved by their shareholders in 2007. A combination of the world's number one steel company (Arcelor) and the world's number two steel company (Mittal) would result in control of an estimated 11% of the world's annual output. The combination, to be named ArcelorMittal and based in Luxembourg, would create a world leader three

times larger than its nearest rival, Nippon Steel Corp. of Japan (ArcelorMittal, 2007).

Acieries Reunies de Burbach-Eich-Dudelang (ARBED), a subsidiary of ArcelorMittal, dominated Luxembourg's mineral industry. ARBED was the major producer of crude steel, pig iron, and stainless steel, all of which were produced from imported material. The company specialized in the production of large structural beams and specialized value-added products.

### **Outlook**

Luxembourg is expected to continue as a producer and exporter of steel. The industrial mineral production will be limited to domestic consumption.

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TABLE 1  
BELGIUM AND LUXEMBOURG: PRODUCTION OF MINERAL COMMODITIES<sup>1</sup>

(Metric tons unless otherwise specified)

Country and commodity	2003	2004	2005	2006	2007 <sup>c</sup>
<b>BELGIUM<sup>2</sup></b>					
<b>Metals:</b>					
Aluminum, secondary including unspecified metals <sup>e</sup>	200	100	100	125	125
Arsenic, white <sup>e</sup>	1,200	1,200	--	--	--
Bismuth, metal <sup>e</sup>	600	500	500	500	500
Cadmium, primary	100	--	--	-- <sup>r</sup>	--
Cobalt, primary <sup>3</sup>	1,704	2,947	3,298	2,840 <sup>e</sup>	2,825 <sup>4</sup>
<b>Copper:</b>					
Smelter, secondary	117,500	107,700	97,200	114,600	87,000
Refined, primary and secondary <sup>c</sup>	425,000	383,000	382,000	382,600 <sup>4</sup>	380,000
<b>Iron and steel:</b>					
Pig iron	7,813	8,224	7,254	7,516 <sup>r</sup>	6,576 <sup>4</sup>
<b>Steel:</b>					
Crude	11,128	11,698	8,906	11,238	10,692 <sup>4</sup>
Hot-rolled products	13,169	13,269	11,274	12,000 <sup>e</sup>	12,000
Lead, refined, secondary	69,800	63,400	63,400	97,200 <sup>e</sup>	97,000
Selenium <sup>e</sup>	200	200	200	200	200
Tin, metal, secondary including alloys	7,700	8,900	7,800	7,600 <sup>e</sup>	8,400
<b>Zinc:</b>					
<b>Slab:</b>					
Primary	244,000	257,000	222,000	219,800	241,300 <sup>4</sup>
Secondary, possibly remelted zinc	42,000	46,000	40,000	40,000 <sup>e</sup>	40,000
Total	286,000	303,000	262,000	259,800 <sup>r</sup>	281,300 <sup>4</sup>
Powder <sup>c</sup>	20,000	20,000	20,000	20,000	20,000
<b>Industrial minerals:</b>					
Barite <sup>e</sup>	30	27	27	28	28
Cement	7,469	7,379	7,594	8,192	9,571 <sup>4</sup>
Clay, kaolin <sup>e</sup>	429	459	460	460	460
Lime and dead-burned dolomite, quicklime <sup>e</sup>	1,800	2,400	2,300	2,400	2,400
Nitrogen, N content of ammonia	874	857	890	825	830
Sodium sulfate <sup>e</sup>	250	250	250	250	250
<b>Stone:</b>					
Worked	23,734	21,649	21,188	18,798	19,000
Natural (excluding slate)	375,122	399,246	460,206	336,584	340,000
<b>Sulfur:</b>					
<b>Byproducts:<sup>e</sup></b>					
Elemental	225,000	225,000	225,000	225,000	225,000
Other forms	175,000	175,000	175,000	175,000	175,000
Total	400,000	400,000	400,000	400,000	400,000
Sulfuric acid	1,235	1,332	1,332	1,393	1,400
<b>Mineral fuels and related materials:</b>					
Carbon black <sup>e</sup>	1,000	1,000	1,000	1,000	1,000
Coke, all types	3,200 <sup>e</sup>	3,200 <sup>e</sup>	2,599	2,895 <sup>r</sup>	2,607 <sup>4</sup>
Gas, manufactured	340,000 <sup>e</sup>	340,000 <sup>e</sup>	472,478	425,504	463,659 <sup>4</sup>
<b>Petroleum refinery products:<sup>5</sup></b>					
Liquefied petroleum gas	15,605	12,304	10,669	10,247	10,968 <sup>4</sup>
Naphtha and white spirit	21,908	20,540	14,531	11,158	14,356 <sup>4</sup>
Gasoline	58,654	57,894	50,562	53,570	50,409 <sup>4</sup>
Kerosene	100,849	95,533	13,005	13,512 <sup>r</sup>	13,566 <sup>4</sup>
Kerosene, other	--	--	500	32,576 <sup>r</sup>	25,088 <sup>4</sup>
Distillate fuel oil	--	--	89,056	94,443	95,755 <sup>4</sup>
Refinery gas	--	--	3,682	3,864	3,874 <sup>4</sup>
Residual fuel oil	57,872	55,811	53,563	47,472	49,227 <sup>4</sup>
Bitumen	2,018	5,331	6,523	8,520	8,635 <sup>4</sup>
Total	256,906 <sup>r</sup>	247,413 <sup>r</sup>	242,091 <sup>r</sup>	275,362 <sup>r</sup>	271,878 <sup>4</sup>

See footnotes at end of table.

TABLE 1—Continued  
 BELGIUM AND LUXEMBOURG: PRODUCTION OF MINERAL COMMODITIES<sup>1</sup>

(Metric tons unless otherwise specified)

Country and commodity	2003	2004	2005	2006	2007 <sup>c</sup>
LUXEMBOURG					
Metals, steel:					
Crude					
	thousand metric tons				
Hot-rolled products	do.				
Industrial minerals:					
Cement, hydraulic <sup>c</sup>					
Phosphates, Thomas slag: <sup>c</sup>					
Gross weight					
P <sub>2</sub> O <sub>5</sub> content					

<sup>c</sup>Estimated; estimated data are rounded to no more than three significant digits; may not add to totals shown. <sup>1</sup>Revised. do. Ditto. -- Zero.

<sup>1</sup>Table includes data available through August 2008.

<sup>2</sup>In addition to the commodities listed, Belgium produced a number of other metals and alloys, for which only aggregate output figures were available.

<sup>3</sup>Production reported by n.v. Umicore s.a. includes production from China and South Africa.

<sup>4</sup>Reported figure.

<sup>5</sup>Conversion factors from metric tons to 42-gallon barrels for petroleum refinery products are as follows: liquefied petroleum gas—11.6; naphtha and white spirit—8.5; gasoline—10; kerosene—7.75; distillate fuel oil—7.46; refinery gas—8.04; residual fuel oil—6.66; and bitumen—6.06.

TABLE 2  
BELGIUM AND LUXEMBOURG: STRUCTURE OF THE MINERAL INDUSTRY IN 2007

(Thousand metric tons unless otherwise specified)

Country and commodity		Major operating companies and major equity owners	Location of main facilities	Annual capacity
<b>BELGIUM</b>				
Cadmium, metal	metric tons	N.V. Umicore S.A. (Sté. Générale de Belgique, 50.2%)	Balen	1,800
Cement		Major companies:	Plants:	8,400
Do.		Cimenteries CBR SA (HeidelbergCement Group)	Major plants at Lixhe, Mons/Obourg, Harmignies, Marchienne, and Ghent	3,200
Do. <sup>1</sup>		Ciments d'Obourg SA (Holcim Group)	Plants at Obourg and Thieu	2,800
Do.		Compagnie des Ciment Belge (Ciments Francais S.A.)	Plant at Gaurain-Ramecroix	2,400
Cobalt	metric tons	N.V. Umicore S.A. (Sté. Générale de Belgique, 50.2%)	Refinery at Olen	500
Copper		do.	Smelter at Antwerp-Hoboken	50
Do.		do.	Refinery at Olen	330
Do.		Metallo-Chimique NV	Smelter at Beerse	80
Dolomite		SA Dolomeuse (Group Lhoist)	Quarry at Marche les Dames	500
Do.		do.	Plant at Marche les Dames	750
Do.		SA de Marche-les-Dames (Group Lhoist)	Quarries at Nameche	3,000
Do.		do.	Plant at Nameche	3,000
Do.		SA Dolomies de Merlemont (Group Lhoist)	Quarry at Philippeville	100
Lead, metal		Nyrstar S.A.	Smelter at Antwerp-Hoboken	90
Do.		do.	Refinery at Antwerp-Hoboken	125
Limestone		Carmeuse S.A. (Long View Investment NV)	Mines and plant at Engis	1,850
Do.		do.	Mines and plant at Frasnes	450
Do.		do.	Mines and plant at Maizeret	850
Do.		do.	Mines and plant at Moha	800
Do.		SA Transcar (Royal Volker Stevin)	Mines and plant at Maizeret	850
Petroleum, refined	42-gallon barrels per day	Companies: Total S.A.	Refineries, of which: Refinery at Antwerp	268,000
Do.	do.	SA Esso NV	do.	239,000
Do.	do.	Nynas Petroleum NV	do.	125,000
Do.	do.	Belgian Refining Corp.	do.	80,000
Do.	do.	Petroplus Refining Antwerp NV	do.	55,000
Salt		Zoutman NV	Plant at Roeselare	200
Sand, silica		SRC-Sibelco SA	Mines and plants at Lommel, Mol, and Maasmechelen	500
Steel		Companies:	Of which:	14,000
Do.		Cockerill Sambre SA (Government of Wallonia, 80%)	Plants at Liege and Charleroi	(5,000)
Do.		Sidmar NV (Belgian Government, 28.24%, and Arcelor Group, 71.76%)	Plant at Ghent	(3,960)
Do.		Usines Gustave Boël NV	Plant at La Louviere	(2,020)
Do.		Forges de Clabecq SA	Plant at Clabecq	(1,500)
Do.		SA Fabrique de Fer de Charleroi	Plant at Charleroi	(600)
Do.		ALZ NV	Plant at Genk-Zuid	(360)
Do.		New Tubemeuse (NTW) SA	Plant at Flemalle	(300)
Zinc, metal		Nyrstar S.A.	Smelter and refinery at Balen	450
<b>LUXEMBOURG</b>				
Cement		SA des Ciments Luxembourgeois (Acieries Reunies de Burbach-Eich-Dudelang, 50.2%, and Sté. Générale de Belgique, 25%)	Plant at Esch-sur-Alzette	450
Do.		Intermoselle SARL (Acieries Reunies de Burbach-Eich Dudelang, 33%)	Plant at Rumelange	1,000
Steel		Acieries Reunies de Burbach-Eich-Dudelang (ArcelorMittal)	Plants at Differdange, Dudelange, Esch-Belval, Esch-Schifflange	5,320
Do.		Arcelor Differdange SA (ArcelorMittal)	Plant at Differdange	1,200
Do.		Ugine & ALZ Carnox (ArcelorMittal)	do.	1,000

Do., do. Ditto.

<sup>1</sup>Includes the capacity of the company SA Ciments de Haccourt.